

(43) International Publication Date  
6 November 2014 (06.11.2014)

## (51) International Patent Classification:

A61F 2/00 (2006.01) A61M 25/10 (2013.01)  
A61F 2/95 (2013.01)

## (21) International Application Number:

PCT/US2014/034038

## (22) International Filing Date:

14 April 2014 (14.04.2014)

## (25) Filing Language:

English

## (26) Publication Language:

English

## (30) Priority Data:

61/819,337 3 May 2013 (03.05.2013) US

(71) Applicant: AMARANTH MEDICAL PTE. [SG/SG]; 41  
Science Park Road, #01-02 The Gemini, Singapore Science  
Park II, Singapore 117610 (SG).

## (72) Inventor; and

(71) Applicant (for US only): RAMZIPOOR, Kamal  
[US/US]; 46102 Klamath Street, Fremont, California  
94539 (US).

(72) Inventors: LEE, Chang Y.; 928 Warren Street, Redwood  
City, California 94063 (US). ESTRADA, Edward A.;  
2050 Oakley Avenue, Menlo Park, California 94025 (US).

(74) Agents: HAN, Johnny U. et al.; 2400 Geng Road, Suite  
120, Levine Bagade Han LLP, Palo Alto, California 94303  
(US).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,  
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,  
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,  
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,  
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,  
OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,  
SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,  
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,  
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,  
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,  
MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,  
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
KM, ML, MR, NE, SN, TD, TG).

## Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

## Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(54) Title: STENT DELIVERY AND DEPLOYMENT METHODS AND APPARATUS

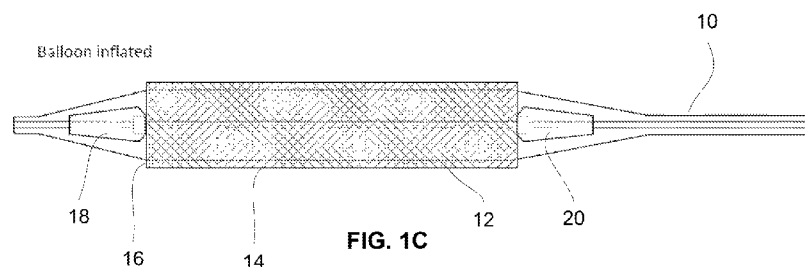


FIG. 1C

(57) Abstract: For scaffolds delivered and deployed intravascularly, one or several configurations may be employed for creating a smoother transition from balloon-to-scaffold. For instance, one or more spacers may be positioned in proximity to the scaffold. Alternatively, portions of the inflatable balloon may be configured to provide a smooth transition. In another alternative, the stent edges may be shaped to provide a smooth transition. In yet other variations, any number of different combinations of such features may be employed.

